

What is claimed is:

1. An apparatus for image processing comprising:
 - a region detector for detecting an edge region in an
5 image data;
 - a density conversion unit for reducing a density
difference within the edge region detected by said region
detector;
 - a compression unit for compressing the image data within
10 the edge region where the density difference is reduced by
said density conversion unit, using discrete cosine
transform; and
 - an expansion unit for expanding the image data
compressed by said compression unit.
- 15 2. An apparatus as claimed in claim 1, wherein said
density conversion unit converts N-bit image data into
(N-1)-bit image data.
3. An apparatus as claimed in claim 2, wherein said
density conversion unit increases a density value of the
20 converted (N-1)-bit image data a certain amount.
4. An apparatus as claimed in claim 1, further
comprising an image reader for reading a document wherein
said image data is an image data outputted by said image
reader.

5. An apparatus as claimed in claim 1, further comprising a printing unit for printing an image data on a paper wherein said image data is the image data expanded by said expansion unit.

5 6. A method for image processing comprising the steps of:

detecting an edge region within an image data;
reducing a density difference within the edge region;
compressing the image data within the edge region where
10 the density difference is reduced, using discrete cosine transform; and

expanding the compressed image data.

7. A method as claimed in claim 6, wherein said step of reducing a density difference is a step of converting N-bit
15 image data into (N-1)-bit image data.

8. A method as claimed in claim 7, wherein said step of reducing a density difference includes a step of increasing a density value of the (N-1)-bit image data by a certain amount.

20 9. A method as claimed in claim 6, further comprising a step of reading a document and generating an image data to be processed.

10. A method as claimed in claim 6, further comprising a step of printing the expanded image data on a paper.

11. A computer program product for image processing comprising the steps of:

detecting an edge region within an image data;

reducing a density difference within the edge region;

5 compressing the image data within the edge region where the density difference is reduced, using discrete cosine transform; and

expanding the compressed image data.

12. A product as claimed in claim 11, wherein said step
10 of reducing a density difference is a step of converting N-bit image data into (N-1)-bit image data.

13. A product as claimed in claim 12, wherein said step
of reducing a density difference includes a step of
increasing a density value of the (N-1)-bit image data by
15 a certain amount.

14. A product as claimed in claim 11, further comprising a step of reading a document and generating an image data to be processed.

15. A product as claimed in claim 11, further
20 comprising a step of printing the expanded image data on a paper.